

A deeper *Challenge of Change*: The role of land-grant universities in assessing and ending structural racism in the US food system

An INFAS supplement to the Association of Public and Land-grant Universities' *The Challenge of Change: Harnessing University Discovery, Engagement, and Learning to Achieve Food and Nutrition Security* report

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Introduction

In this essay, we examine institutional expressions of racism in the US food system and ways universities can contribute to challenging racism.

Nine members of INFAS—the Inter-Institutional Network for Food, Agriculture, and Sustainability—were among the 66 people across eight working groups invited to help co-author a report about how public universities in North America should contribute to global food security. When the groups began writing in early fall 2016, convened by the Association of Public and Land-grant Universities (APLU) with support from the W.K. Kellogg Foundation, the report was provisionally titled *The Challenge of Change: US Universities Feeding the World*. One of the intended audiences, aside from universities themselves, was the incoming executive administration in the United States (US). By early 2017, when these 66 mostly academic people, plus nearly three dozen other food system experts and APLU staff, were finishing the report, we knew Donald J. Trump would be the incoming president.

Since then, the APLU has released the report, with the final title [*The Challenge of Change: Harnessing University Discovery, Engagement, and Learning to Achieve Food and Nutrition Security*](#). Also since then, the growing frequency and ferocity of openly white supremacist and neo-Nazi words and actions, combined with the killing of a white woman protesting these views on August 12, 2017, in Charlottesville, Virginia, has thrust racism in the US into the limelight on a mainstream and nationwide level.

For people who live on the sunny side of the long shadow that institutional racism casts, this heightened national awareness of racism might appear new, or perhaps renewed. However, the legacy of racism in the US started when European colonizers began claiming these lands while exterminating and enslaving the inhabitants (see [Resendez](#)). It deepened its grip when our nation's forefathers kidnapped and enslaved people from the continent of Africa and their descendants. This legacy continues in an unbroken line to the present day.

In this essay, we—a group of nine INFAS members, most of whom participated in the APLU report writing—revisit the final *Challenge of Change* report by viewing it through the lens of structural racism. INFAS developed and subsequently committed to a [racial equity statement](#) with a domestic US focus in 2015. This statement includes a commitment to “equity in opportunity, food access and health outcomes” as “a non-negotiable foundational principle of a sustainable food system and a core value and commitment for us.” As INFAS members, we state that “to help build equity in the food system, we are focusing on the barrier of structural racism” and its intersections with class, gender, and other forms of systemic oppression.

That commitment—made by our group of mostly white academics who for the most part hold tenured and often endowed chair positions in US research universities—is aspirational. In revisiting the *Challenge of Change* report with this commitment in mind, it became instantly clear how far short we fell in ensuring that the presence of structural racism was both acknowledged and addressed in the US-based issues in that document. The topic of structural racism is, in fact, nearly absent from the report.

Here, better late than never, we are revisiting the US-relevant sections of the report to focus on the challenge to universities of ending racism in US society via our participation in food system and food security research, education, and extension. Our hope is to strengthen the report by providing a framework for collaborative change across PLUs to address these issues, encouraging PLUs – the institutions and the individuals who work within them – to engage in anti-racist practice in food system research, teaching, and outreach. We aim to add an anti-racist lens on the report and map some pathways for anti-racist action in PLUs in food system work. We aim here to name racism’s manifestations in food systems and PLU work in food systems and some ways our institutions and individual academics can strive to challenge racism. We aim to name without shaming – to help catalyze not recriminations, but action.

We open with a background on structural racism and racism in the US food system and then turn to the role that each of the seven “challenges for change” in the APLU report can have in ending racism. In our conclusions, we also discuss the work that needs to be done, by individual academics and at an institutional level, to eliminate personal and cultural racism.

Structural Racism and Racism in the US Food System

Developing a shared understanding of structural racism, particularly institutional racism, and how it is often expressed can better equip us as food system academics to work for equity in our food system. Racism is more than just racial prejudice. Racism is racial bias and prejudice *combined* with dominant currents of social and institutional power that work systematically for whites and against people of color. Racism manifests in three main ways: [personally, culturally, and institutionally](#).

Consider, for example, our nation’s history of the systematic enslavement of Africans and African Americans. While the 13th Amendment to the U.S. Constitution (ratified December 6, 1865) purported to outlaw slavery, it contained a clause that provided the mechanism for its [legal extension](#):

Neither slavery nor involuntary servitude, *except as a punishment for crime* whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction. (Our emphasis)

De facto slavery thus [continued well into the 1940s \(primarily\) for men in the US South](#); law enforcement agencies and white farmers systematically colluded in arresting African-American men via sweeping and groundless incarceration every harvest season in order to press them into unpaid field labor.

The use of local property taxes as the main source of public education funding also systematically maintain racial inequity and compounds a long history of separate and unequal education that includes the founding of a separate system of land-grant colleges in 1890 for African Americans that were denied admission to white-

only 1862 land-grant universities. Notably, these “granted” lands, and all of the farming and grazing lands of the US food system, were taken from indigenous nations.

Over the past 20 years the US Department of Agriculture (USDA) has reached multi-million dollar settlements with African-American, Native American, and Hispanic American (and women) farmers who were systematically denied the loan, grant, land use, and technical supports that the agency provided to white farmers for decades (e.g. [USDA settlements and claims processes](#)).

Beyond our food system, structural racism encompasses multiple forms of disinvestment in communities of color through redlining practices whereby banks, supermarkets, and insurance companies systematically deny credit and investments in specific areas and to specific people, namely people of color. Such institutions used to literally mark off neighborhood maps with red lines, but these practices continue as higher-technology versions today. In 2015 alone, at least [three US banks settled charges](#) of systematically rejecting mortgage applications from people living in neighborhoods predominantly of color.

The consequences of these policies and actions are enormous. Some are reflected in wealth. For example, whites today, on average, have [accumulated 10 times the wealth](#) of African-American families. Some are reflected in life and death. On August 6, 2017 a young man from Mexico with an H2-A visa was harvesting blueberries in intense heat in fields in Washington State when he collapsed and died. As the director of Food First [noted in an essay](#) linking this migrant farm worker’s death with the killing six days later of a woman protesting white supremacy, “While the forms of violence were different, their deaths are grounded in the same violent, racialized conditions.” In general, agricultural workers have been excluded from wage and labor safety standards and protections provided to workers in other sectors. Although migrant workers arrive in the US healthier, on average, than their peers at home, their life expectancy is [only 49 years](#). This is remarkably similar to the life expectancy of Native Americans in the Wind River Indian Reservation, who die at least [22 years earlier](#), on average, than their white fellow Wyomingites. Origins of this disparity include massive land theft, the [bison massacre](#), confinement to reservations, and cultural genocide attempted via policies such as boarding schools that aimed to “[kill the Indian, and save the man](#).”

Structural Racism and Food Insecurity in the US

An outcome of racism in the food system is food insecurity. In the US, despite increases in crop and animal productivity, an abundance of food availability, and national growth in public and private food assistance, food insecurity rates have consistently remained high: between 14% and 15% ([ERS, 2013](#)). This is higher than food insecurity rates in most other developed and many developing countries, even though the US is among the most agriculturally productive countries. Supply is not the problem; the US produces [plenty of food](#) for every person in the country, even after wasting over a third of it. And yet, nationally, [41.2 million individuals are food insecure](#). This is the equivalent of the population of California and Michigan combined. Food insecurity rates are considerably higher in households with children; Black, Native American, and Hispanic households; and households in inner cities and rural areas.

Adding Challenging Racism to the Challenge of Change

The commission that produced the APLU [Challenge of Change](#) report struggled with several issues, including a domestic vs. global focus in food security recommendations and impact, the financial support possible from large-scale production interests vs. the social benefits of supporting smallholders, equitable distribution of capital, and a “we feed the world” vs. “we help the world feed itself” framing of food security. However, the report skirts the issues pertaining to racism in the food system and the role of universities in undoing racism and, therefore, largely misses racial equity as both a current egregious fault and a future necessity for the sustainability of US and global agriculture and food systems.

INFAS members, many of whom served on working groups for the commission, now offer the following as a means to pull from the report examples and opportunities for addressing and ensuring racial equity in the US, both for its own sake and for achieving global food security. As a framework for our ideas, we have used the seven challenge areas covered in the APLU report; we have also provided a summary section for what INFAS members and other food system–related academics and academic institutions, especially public and land-grant universities (PLUs), need to do to contribute significantly to ending racism in the US food system.

Challenge 1: Increase Yields, Profitability, and Environmental Sustainability Simultaneously

The APLU Challenge of Change commission recognized that production systems are based on ecosystem services (the benefits that people gain from ecosystems) as opposed to purchased inputs, and the report highlights ecosystem services as the basis of the sustainable production systems needed to achieve global food security. Ecosystem services are broadly categorized into provisioning (e.g. food and fiber), supporting (e.g. soil formation), regulating (e.g. natural control of pests) and cultural (e.g. recreational or spiritual) services (Millennium Ecosystem Assessment, e.g. [Board Summary](#).) Supporting and regulating services generally provide a foundation for provisioning and cultural services. Ecosystem services would be expected to serve all of humanity in a healthy agricultural ecosystem, not just the few who currently own the means of food production in the US and much of the rest of the world. The report states that the “total costs of production (e.g., water, land, labor, fertilizer, machinery, and livestock) and their impacts, especially on the loss of ecosystem elements (e.g., healthy soils, clean water, increased biodiversity, and sequestered carbon) integrate with[in] food and production systems” ([report p. 28](#)). This accounting of ecosystem services is relevant primarily to current large-scale production by an overwhelming majority of white landowners/managers who have access to capital or financial assets to afford the aforementioned inputs to production. It ignores the equitable sharing of ecosystem services across all members of society, particularly along lines of gender, class, and race. Black farmers, for example, have been almost eliminated in the US through a series of overtly racist personal and institutional actions, a reality only recently recognized in the Pigford vs. Glickman decision, and similar cases of USDA discrimination against Latino, Native American and female farmers have been considered in US courts ([Carpenter 2012](#)). The most common form of discrimination in these cases is denial of agricultural credit on the basis of race, ethnicity or gender. [Gilbert et al.](#) (2002) calculated that in 1920, 14% of US farmers were Black and they owned over 16 million acres, but by 1997 only 1% were Black and they owned about 2 million acres. In contrast, numerous harmful aspects of production systems are inequitably shouldered by communities of color, such as exposure to pollutants that degrade ecosystem services, whether via [direct exposure to workers](#) within the agricultural sphere or through [patterns of racial and socioeconomic disparities](#) in the placement in nonwhite and poor communities of a large variety of environmental hazards.

The report proposes a path toward racial equity in that “Standards for output from the system need to take into consideration both direct and indirect costs and benefits... [and] determine the comprehensive economic value of ecosystem services. This includes non-market valuation and estimation of externalities in areas [such] as [the] environment, health, community and civic engagement, and alternative economies such as economy of scope in addition to economies of scale ([report p. 32–33](#)).” We suggest that racial equity should become a standard of evaluation of the ecosystem services that support both agricultural production and equitable food security with metrics that describe such measures as income equality and household food security.

Equity contributes to conceptual models of properties of agroecosystem health ([Conway 1987](#), [Marten 1988](#)) as well as indicators that measure these properties ([López-Ridaura et al. 2002](#), [Van Cauwenbergh et al. 2007](#), [Vadrevu et al. 2008](#), [van Ittersum et al. 2008](#), [Singh et al. 2009](#)). None of these cited models or indicator sets address racial equity in agriculture and food systems, however, highlighting a research need and opportunity for PLUs.

Challenge 2: Develop the Varieties and Breeds Needed for Sustainable Food Systems

Much of the detailed language in this section of the report identifies unobjectionable goals for biologically based agricultural research. But the heavy reliance on “breeds and varieties” to characterize scientific contributions to plant and animal performance reflects the ability of plant and animal breeders to predictably reproduce phenotypic traits that have been valued by farmers operating in well-developed markets. Whereas genetics provides a conceptual basis for identifying different plant varieties and animal breeds, the social reality is that this way of categorizing plants and animals is performed through ownership, control, and monetized exchange. Registered (i.e. patented and trademarked) plant and animal varieties exist because they have been socially institutionalized through property rights. These property institutions take many forms, including registered plant varieties and animal breeding associations. With the trend toward utility patents that has accompanied molecular breeding techniques, the power to exclude others from access to or use of innovations in plant and animal performance has grown substantially. The introduction of plant varieties and animal breeds that are defined under property regimes and commercial gain is often accompanied by substantial displacement among producers. Varieties that are owned by their developers must often be purchased by users. This puts the benefits of higher yields beyond the reach of the poor, who may be forced out of farming altogether (see [The Political Economy of Agrarian Change](#); [New Seeds and Poor People](#)). At the same time, emphasizing production of the high-yielding variety takes the producer’s attention away from less commercially remunerative components of the farming system. This can have negative environmental effects, and can make poor farmers more vulnerable to failures that do occur in commercial varieties ([Beyond the Green Revolution: The Ecology and Politics of Global Agricultural Development](#)). When these vulnerabilities are paired with gender bias or racist attitudes among lenders, government officials and white farmers, the resulting distribution of benefits is sharply skewed along racial and gender lines ([Reaping a Greater Harvest: African Americans, the Extension Service and Rural Reform in Jim Crow Texas](#); [Dispossession: African American Farmers in the Age of Civil Rights](#); [A Field of One’s Own: Gender and Land Rights in South Asia](#)). Even when overtly discriminatory practices end, the legacy of new varieties and breeds will privilege farmers that have already accumulated both land and capital. The lag in ownership of land and access to both financial and human capital creates a permanent disadvantage for racial minorities that is the very definition of structural racism.

As such, to discuss future research on the biological potential of agricultural plants and animals in terms of creating new varieties and breeds is to mindlessly re-enact practices that have significantly disadvantaged racial and ethnic minorities in the US food system and that are documented to have led to the displacement and impoverishment of smallholders on a global basis. We do not believe and certainly do not claim that this is the intention of agricultural scientists. Indeed, it is our expectation that this pattern of thought is so far from the conscious thought patterns of agricultural researchers that they will react by denying that there is any connection at all between developing varieties and breeds in plant and animals and the forms of cultural, structural, and personal racism that continue to plague American society. White Americans in general, and university staff in particular, enjoy positions of privilege that isolate them from the reverberations of their speech patterns and mental habits. The fact that agricultural researchers seem to conduct themselves in obliviousness to the history that has linked plant and animal breeding to eugenics and to genetics-based justification of discrimination against racial groups testifies to the inexcusable gaps that continue to exist in the training and daily practice of the biologically based agricultural sciences.

Challenge 3: Decrease Food Loss and Waste through More Efficient Distribution Systems

This was one of the few sections in the overall document in which the issue of distribution is addressed, yet a notable opportunity was missed by limiting the focus on this topic to the effects of food loss and food waste on food distribution. Clearly, efforts to increase efficiency along the supply chain in this regard are commendable. However, many other forces affect global food distribution and universities have a vital role to play in helping to ensure that distribution becomes more equitable. Market forces, globalization, neo-liberal and trade policies, technology, and modern transport and communication methods are all having profound

effects on how food is distributed, increasing net concentrations of wealth and power in the food system for some at the expense of others. These trends exacerbate historic power differentials at the expense of communities of color, as well as shift the control of local and regional food systems in general. That said, one of the most positive aspects of the entire report is to be found in two “pathways” identified within this challenge. We laud the first, “Engage urban communities to develop opportunities for urban agriculture and aquaculture to increase the availability of nutritious food in urban environments to promote healthy diets and to expand economic opportunities” ([report p. 49](#)) for bringing attention to the role that urban agriculture can play in decentralizing, localizing, and democratizing food economies. This includes the importance of supporting regional food hubs linking urban areas and their surrounding communities and bringing investment and economic benefit to both. The second pathway, “Generate knowledge of local food systems to re-localize those systems and revitalize communities through investment, job creation, and resilience building” ([report p. 49](#)) builds upon the preceding theme and encourages universities to play a leadership role in helping to identify “gaps in knowledge and research regarding food hubs” in a way that is truly transdisciplinary (a recurring goal in the report), engaging diverse segments of society to share information; improve food literacy; forge partnerships and networks; build local capacity; and promote small, self-determined food actors. True democratization of the food system will require bringing racial equity to the forefront of food hub/value chain development ([Dara Cooper](#) and [Tamara Jones](#), panelists at the 2017 SAFSF Conference.)

In terms of food waste itself, the focus of the report was on how to prevent and reduce it, rather than how to deal with the waste once we have it. Communities of color are often targeted as sites for waste disposal operations, concentrated animal feeding operations (CAFOs), and other toxin-generating facilities. More than half of all people in the US who live within 3 kilometers of a [hazardous waste facility](#) are people of color. Universities should play a role in developing technologies around composting, anaerobic digestion, biochar, etc., and in ways that do not benefit the privileged (e.g., with better waste disposal and recycling options) at the expense of oppressed communities (e.g., with increased exposure to waste in their communities, having to process them, etc.) Waste reduction and management must be a shared responsibility.

Challenge 4: Create and Share Resources That Serve All Populations

Creating and sharing resources is an excellent start to an anti-racist guide for university contributions to equitable and sustainable food system development. This challenge area is the only one within the report to explicitly use the word “race.” It notes that “currently, the economic and social status, gender, race, ethnicity, and/or location of groups and individuals contributes to the disparity of access to a nutritious food supply” ([report p. 56](#)). We suggest the following two approaches for adding an anti-racist food system viewpoint to this challenge:

(1) Explicitly name the crisis of injustice and inequity in production, access, and utilization by race, class, and gender, domestically and internationally. Characterize it qualitatively and quantitatively, through existing knowledge and in future research, including its historical origins and current causal replications.

(2) Frame people as partners in this food system work, rather than considering them in passive roles as populations to be served. This supports empowerment rather than serving, providing, or enabling.

For example, the recommendation to build infrastructure ([report p. 58](#)) needs to specify not only physical infrastructure but also civic, political, and social infrastructure, such as in the recommendation that universities engage in coalition building ([report p. 64](#)). In the sound recommendation that universities “use ‘big data’ analytics to identify infrastructure deficiencies that can be associated with food insecurity” ([report p. 59](#)), this would mean also using this analysis to help quantify infrastructure abundance and deficiencies based on race, gender, and geography.

Perhaps the richest arena of all in this part of the report, for explicating university roles in research about food security, sovereignty, and justice, is in how to form and maintain equitable research relations with community-based partners. For example, the community–university food system research collaboration outlined in a boxed story ([report p. 57](#)) highlights the good, and hopefully obvious, practice of sharing all research results among academic and community partners and collaborating on using the results to inform subsequent actions.

Challenge 5: Ensure inclusive and equitable food systems

The report opens this challenge area with the following statement: “Public research universities, as the discoverers, analyzers, and curators of agriculture, food systems, fisheries, aquaculture, and nutrition information, have a unique leadership role in creating knowledge that will ensure equitable access to sufficient food and nutrition security for all people” ([report p. 65](#)). Ensuring equitable food systems, as a challenge for PLUs, offers the greatest promise for an anti-racist focus for academic work for food security in the US. At the same time, the passage implies that PLUs are singularly “the” knowledge leaders, as opposed to collaborators with experts outside the academy. It also suggests, incorrectly, that knowledge creation will lead to equity.

Just as white supremacy cannot be dismantled by the toppling of statues alone, documenting the “benefits and burdens of the food system” ([report p. 67](#))—counting the gains disproportionately accruing to whites and the burdens being placed on communities of color—is necessary but insufficient to ensure a more just and equitable food system. For example, the report notes that “only a very small percentage of the US population owns farmland” ([report p. 66](#)). A racial equity lens would mention how much land whites took from Native Americans and from African-American farmers (noted under Challenge 1, above), and the racist systems that enabled these actions, from the [Dawes Re-allotment Act](#) of 1886 to a federal court’s blessing of the seizure of even the most reduced [Wind River Indian Reservation](#) lands in 2017.

The report is right to name the problem of relegating community–university collaborations for equity work to “short-term, project-based funding schemes” rather than to institutionalized policies and practices to tackle the foundations of racist oppression ([report p. 74](#)). However, the report subsequently implies that the “targeted communities” and “the research and development experts working alongside them” are equally impacted, equally robbed “of autonomy, self-determination, and respect” ([report p. 74](#)) by these funding schemes. Similarly, the report outlines real and systemic barriers to PLU engagement with “some of the stakeholder groups that are most impacted by food insecurity—women, young, poor, and marginalized populations” ([report p. 69](#)); namely, institutional mis-incentives and budget cuts. However, as PLUs themselves enjoy institutionalized, systemic support (in contrast to the limited or complete lack of resources held by food insecure stakeholders), they are in the advantageous position of being able to make long-term commitments to community collaborators in creating equitable food systems. Racial equity action by academics and our institutions does mean striving for policy and practice shifts in funding food system equity and in our internal reward systems, as well as leveraging our systemically supported resources to enable such long-term collaborations.

The report does provide some excellent guidelines for PLU equity work, such as to “propose alternative economic models that promote equitable distribution of wealth, access to healthy food[,] and conservation of biological and cultural diversity” ([report p. 68](#)) and to ensure not only that our student and faculty bodies are diverse but also that the content we teach is inclusive ([report p. 71](#)). However, too often, the steps needed to transform our food system are replaced by symbolic exchanges between our privileged campuses as part of an “outreach” initiative to communities swelling with poverty for the sake of our research publications and agendas. These efforts may transpire from good intentions but seldom reap the structural impacts we seek and often amount to band-aids on a system that is violently sacrificing the health and dignity of marginalized people and leaves out social transformation, democratization, and self-determination built on solidarity with

the communities in which we are anchored. This is where the opportunity lies to be unique in how we lead for equity as public institutions.

Challenge 6: Address the Dual Burdens of Undernutrition and Obesity to Ensure Full Human Potential

This section of the report notes the staggering costs of malnutrition—both overnutrition and undernutrition. It also mentions that what people eat “can be shaped by many forces” and notes the tight correlations in the US between poverty and obesity ([report p. 77](#)). INFAS maintains that it is not the *behavior* that needs modification, it is the components and their drivers that need modification. The food system currently favors those who have adequate financial resources, time, and a vehicle, and who live in a place with access to healthy foods and are not over-exposed to fast food or snack food marketing, etc. It is not a choice to suffer from a diet-related disease, it is the result of an environment in which that outcome is the most likely. These environments and other determinants are systematically worse in communities of color, from inner cities to reservations. For example, among the many forces leading to nearly half of African Americans being obese, versus one-third of whites, are extensive and intentional fast food marketing and product availability in urban communities of color ([The Context for Choice: Health Implications of Targeted Food and Beverage Marketing to African Americans](#).) Strikingly, the one example given in the report to specify how such forces shape “choice” is that “in single-parent households, more often unhealthy choices are served because the parent doesn’t have sufficient time to prepare healthy meals” ([report p. 77](#)). We note that this finding is not borne out by evidence, once the associated risks created by poverty are controlled for ([Family Structure and Childhood Obesity: An Analysis Through 8th Grade](#)).

The burden for making these food system changes lies with institutions such as PLUs, working collaboratively with other organizations and communities, to help change the food system that produces not only malnutrition but also gross racial disparities with respect to those who suffer the most from under- and over nutrition. This section of the report offers some good recommendations for creating such engaged collaborations. It also frequently proffers systems-level lenses for reducing malnutrition (e.g., “Analyze the connections between availability, access, and utilization at the population, landscape, and regional scales, for populations, as well as individuals” ([report p. 85](#))). We agree that as obesity and hunger (and gross racial disparities with respect to who is food insecure and who is obese) are determined much more by systems than by individual choice (including systems of structural racism), the solutions must also be systemic.

Challenge 7: Ensure a Safe and Secure Food Supply

In the section on food safety, sanitation, and public health, the report focuses on detecting and monitoring infectious agents and their spread, understanding the biology of pathogens, and assessing how various food production methods may contribute to or inhibit their spread through the environment and negatively affect end-users/consumers (the ‘public’). We propose that this challenge should be rephrased to ensure a safe and secure food supply and to ensure that those who produce our food supply are safe and secure. The issue of food safety is an important one because consumers want to be confident that the food they consume and serve to their families will not make them sick. To this end there are numerous, long-standing governmental agencies dedicated to food safety and a secure food supply and to mounting services related to the rapid reduction of food-related threats. These agencies include the Centers for Disease Control (CDC), the Environmental Protection Agency (EPA), and a tri-agency partnership between the Food and Drug Administration (FDA), the US Department of Agriculture (USDA), and the CDC that focuses on tracking antibiotic resistance in foodborne bacteria. The report notes that 128,000 people, or roughly 1 in 2,250, are hospitalized annually with foodborne illnesses in the US ([report p. 85](#)). In sharp contrast, there’s no comprehensive government tracking system or data collection on the number of agricultural workers who become ill because of pesticide exposure in the US. This disparity exemplifies the inequities and structural racism within our food system and within our public agencies that continue to relegate the health and safety risks that fall disproportionately to people of color, immigrants, and undocumented workers as a lower priority, if they are considered at all. Although data are hard to come by, some reports cite the EPA as

estimating that there are [10,000 to 20,000 physician-diagnosed pesticide poisonings](#) each year among the approximately 2 million US agricultural workers, which translates to a rate of about 1 in 100 to 1 in 200 people (compare this to the report-cited 1 in 2,250 foodborne illness rate, above. These figures are most likely to underestimate the actual impact, as workers in this sector often [lack sufficient access](#) to quality medical care and are vulnerable to retaliatory actions such as threats of job loss, wage theft, or even violence or deportation if they report suspected exposure. Beyond this estimate, many other workers are exposed to hazardous chemicals but will experience less severe symptoms and will not even seek medical assistance.

More generally, entirely missing from the report's risk assessment and recommendations is consideration of the more than 20 million people who [work within the food supply chain](#) to cultivate, weed, harvest, slaughter, process, package, deliver, prepare, and serve the food that we eat. The report omits any data or discussion of [adverse health outcomes](#) on the millions of people who work within the long chain from "farm to fork." For example, about half of crop farmworkers are [undocumented immigrants](#), and many of these workers are exposed to significant levels of [deadly pesticides](#). Many food system workers are routinely exposed to food, water, or soil-borne pathogens or work within settings that overuse or misuse of antimicrobial agents and antibiotics. Adding insult to injury, this 'often-invisible labor force' suffers from low wages: of the 10 lowest paying that are reported by the Department of Labor, the majority are in the food system (the referenced data at the Bureau of Labor Statistics was deleted prior to this paper publication. Alternate sources [here](#) and [here](#).) Food system and food supply chain workers are frequently [subjected to exploitative, difficult, and unsafe working conditions](#), such as long, physically demanding shifts; insufficient rest breaks; extreme temperatures; lack of access to sufficient shade, clean water, or sanitation services; sexual harassment and violence; and unfair labor practices including wage theft and lack of over-time or hazard pay, as many of the sectors are excluded from federal labor laws. Structural racism is additionally manifest in the reality that the lowest-wage food system jobs are disproportionately held by people of color, whereas whites are overrepresented in the highest paid food system jobs which more frequently come with stronger health, safety, and legal protections. Our current food system does not simply 'have inequities'; it was founded on, and is maintained by, inequitable treatment of food workers, and specifically people of color, throughout the entire food supply chain.

What follows is a call to higher education as a way to address some of the shortcomings, including institutionalized racism that is interwoven into their very foundations.

The Grand Challenge: Institutional Transformation for Public Research Universities to Meet the Challenge of Ending Racism in the US Food System

We begin this section with an optimistic viewpoint. Imagine a situation whereby PLUs truly organize their collective capacities around a shared grand challenge: the result would be an astounding amount of collective attention, capacity, and resources being set in motion toward a common end on a scale that will have cascading impacts from the local to the global and from the short term to the long term. Given the gravity of the suffering and indignity to the community of life that is related to the systemic failure of our food system, the harnessing of the potential collective impact of PLUs is a powerful idea that could indeed make the world a much better place.

This optimism, however, is tempered by a limitation of the current process: the framing of any collective challenge or problem, including the APLU's *Challenge of Change* initiative, limits the range and direction of solutions. In this case, APLU's shared challenge carries with it assumptions that inscribe boundaries around particular food and nutrition issues and limit the kinds of responses that would be expected from PLUs. More specifically, the framing of this particular grand challenge reflects a *production, distribution, and behavior perspective* that will not only restrict the full potential of PLUs and the communities they work with to

transform our food systems into drivers of dignity and wellbeing but will also perpetuate the failed approaches that have generated the crisis of pervasive food and nutrition insecurity.

Throughout the *Challenge of Change* process an alternative framing of the grand challenge was discussed by members of the commission and working groups. This alternative framing focused on responding to the systemic failure of global food systems by *addressing underlying social and cultural dynamics* that must be central to any successful collective effort to transform food systems, yet nevertheless remain obscured by the *production, distribution, and consumer behavior paradigm*. We believe that the grand challenge before us, and around which we should organize PLUs, is to bring our collective will and resources to bear on supporting the empowerment of diverse populations and communities to shape their food systems and attain public health and well-being. *In other words, the question is not “[how will we feed the world,](#)” but “[how will the world feed itself.](#)”*

This is a challenge that PLU discovery, engagement, and learning can align with in creative, productive, and impactful ways. This empowerment framing approach begins with the rural, urban, and peri-urban communities that include food- and nutrition-insecure individuals, many of whom are food producers, to harness their knowledge, needs, and aspirations as agents of change through the design and policy realization (including public investment) of democratic food systems. By building out from the agency of the communities that are the target of food and nutrition security efforts, this approach can create enduring, resilient, and adaptive food systems while buttressing these communities against the volatility of the current production paradigm including that resulting from the “[dangerous interdependence of food, fuel, and financial markets in the face of climate change](#)”. This empowerment framing cuts across the recommended actions for PLUs with important implications for key elements of a collective effort including our approach to university–community partnerships, transdisciplinary research and education, and the alignment of university structures and process. We elaborate on these elements in the following points.

Four Elements of this Grand Challenge

1. Elevate community empowerment, recognize communities’ agency, and support capacity-building to attain their own food and nutrition security as top priorities

As noted in the APLU report, contributing to the “public good” is a core value of PLUs. We emphasize here that there is also an obligation to use our power and privilege to advance a robust conception of the public good that reflects the values, knowledge, aspirations, and agency of the diverse communities that make up our nation and the international community. Building upon their mission of discovery, engagement, and learning, along with their history, PLUs must use their capacity to convene and facilitate, and to analyze and synthesize and forthrightly bring independent judgment, free of conflicts of interest, to bear on opportunities and threats that undermine democratically shaped food systems. The *Challenge of Change* report notes that PLUs are uniquely positioned to provide leadership in addressing the food and nutrition problems we face. It is through this leadership opportunity that PLUs can elevate community agency and capacity-building, in part by democratizing university–community partnerships.

2. Democratize university–community partnerships

The *Challenge of Change* report correctly emphasizes that meaningful engagement with community partners is critical and that it requires significant time and effort to build the necessary trust for such partnerships. This trustworthiness, as well as the legitimacy of the partnership process, is established through the transparency of values and commitments, through the purpose and intent of all partners, through respect for diverse forms of knowledge and ways of knowing, and through continued alertness to address power imbalances resulting from structural racism and other systems of oppression. These partnerships also require the sharing of resources, including financial resources. Democratizing university–community partnerships means not simply that we, as representatives of the university, recognize that there are multiple communities of knowledge to draw upon for partnership ([report p. 99](#)) but that those suffering the indignity of food and nutrition insecurity

must be central participants in the co-creation of priorities, knowledge building, and solutions, while also sharing equitably in associated resources and benefits.

3. Align university resources and structures for transdisciplinary approaches

By committing our institutions to both community empowerment and to the democratization of university–community partnerships, we will be exercising forms of leadership that go far beyond acting as experts. This level of engagement will require transdisciplinary approaches within both an academic and community context. At the institutional level, recommendations from the APLU report in this critical area of transformation fall short. The suggested changes in organizational structure to encourage transdisciplinary science must be considered a necessary, but only a small, step toward addressing the challenges we face. We must expand our academic community on this point across disciplines to include faculty in the humanities, arts, communication, and policy, along with colleges of law, business, medicine, and architecture, in addition to agriculture and engineering ([Board on Life Sciences; International Council for Science; The Belmont Challenge](#).) Transdisciplinarity, however, goes far beyond university faculty and the continued dominance of disciplinary-based norms and values. The report does include calls for the co-formulation of research agendas and co-production of knowledge with communities. These approaches must take into account community context, including cultural values, and democratic empowerment. This broader approach to transdisciplinarity—including (1) the integration of democratizing university–community partnerships with the alignment of university resources and structure to facilitate a genuine partnership in the setting of research agendas and (2) the equitable sharing of benefits and results—will need to draw from experiences in community-based action research, the decades of work in extension, the experience of non-governmental organizations, and place-based food system work that has emerged over the last decade in INFAS institutions and others.

4. Educate a new generation of students to be transdisciplinary problem solvers

The same challenges that face the development of a truly transdisciplinary approach at the university level also apply to educating the next generation. For educators and students, this means moving beyond the fundamentals of having a good understanding of food system concepts, knowing how their disciplines relate to other components of the food system, and having the skills to work across disciplines in a team. Pedagogically, students must confront the cultural and political dynamics of the food system including structural racism, power dynamics, and the far-reaching effects of undemocratic versus democratically driven food systems. Building on democratized university–community relations and a robust conception of transdisciplinarity, students must directly experience the cultural and social complexity of food systems and be empowered as transdisciplinarians committed to using any and all tools and practices necessary, without regard to their traditional discipline, to support the empowerment of diverse populations and communities to shape their food systems and attain public health and well-being.

Action Points to Promote the Four Elements of the Grand Challenge

We conclude our assessment of the *Challenge of Change* report by defining three action points that will promote the principles described above.

1. Broaden the focus far beyond yields and use metrics of success that reflect multiple goals of food systems

In its conclusions, the *Challenge of Change* report calls for a broadening of the focus on food and nutrition security beyond increasing yields. This is an important and welcome recommendation for a number of reasons, including that the US produces too much of many commodities and too little of others, with resulting overproduction in some areas that becomes a major contributor to chronically low farm prices. But we must go further to address the underlying social and political drivers of food and nutrition insecurity as well as community empowerment. For example, it isn't that increased yields won't be an important part of an adequate response to the *Challenge of Change*, but the questions of *who* participates in deciding *how* and

where enhanced productivity is pursued is central: increased productivity must reduce urban and rural poverty and advance sustainable production and consumption if its effects are to be widespread and enduring. In the US, it also has to create opportunities for people of color, who continue to be systematically discriminated against by racism in both rural and urban communities, to exercise greater democratic control over their food systems. Both domestically and internationally, productivity increases must directly benefit small-scale producers in food- and nutrition-insecure communities. In other words, it isn't simply, as the report suggests, a tradeoff between increased production and greater efficiencies across supply chains. It is precisely the PLUs, and those individuals and institutions that determine public investments that are obligated to use their power and privilege to align their discovery, research, and engagement efforts with the public good.

2. Change the incentive structure of the food system

The report correctly calls for change in the food system's incentive structures and states clearly that those incentives are not just economic but political and cultural. The report calls for the "design of new incentive structures" and acknowledges that incentives are themselves responsive to social, political, and environmental influences. The key here is to ensure that it is *democratic* influences that shape the new incentive structures and that PLUs play a critical role in this process. PLUs must practice the deeply engaged, transdisciplinary work that they are uniquely positioned to do to support the inclusion of the voices that are currently being marginalized and sometimes silenced in the political process through racist manipulation and the dominance of money in politics. But political, economic, and cultural incentives also shape PLUs, and public investments in independent discovery, engagement, and learning are required to reverse the destructive trend of state divestment from PLUs and the perpetuation of narrowly defined, short-term priorities that reinforce the isolation of academics in so-called 'disciplinary silos'.

3. Leverage technology, big data, and information science

In line with the public service obligation of PLUs, and in service to the grand challenge of empowering diverse populations and communities to shape their food systems and attain public health and well-being, the collection of data, the use of monitoring technologies, and open and public access to such collected information are indeed critical. Tools that serve to enhance the transparency of food systems and their accountability, and the access to information related to them, are critically important, as is the role of PLUs in including insights of data efforts, such as the Global Open Data for Agriculture and Nutrition ([GODAN](#)) project, in their engagement practices.

Conclusion

PLUs serve as stark reminders of the opportunities for research, engagement, and discovery made possible through strong educational pipelines. They equally represent the current and historical realities of race in this country, which denied Blacks and Native Americans access to such institutions in an effort to maintain a subordinate class while reinforcing the unwarranted power of a privileged group. Given the overall systemic support PLUs receive, while food insecure stakeholder groups have zero to none, we have no excuse to justify "limited engagement" in these issues. Racial equity action by academics and our institutions does mean striving for policy and practice shifts in funding food system equity and, more immediately, in our internal reward systems. It also means stepping up for long-term collaborations to end food system inequity by leveraging our systemically supported resources right now, and in the service of all members of society.

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Page numbers in the document that refer to the Challenge of Change Report can be found in this URL:

<http://www.aplu.org/projects-and-initiatives/international-programs/challenge-of-change/index.html>

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